

REMARKS

This is in full and timely response to the Official Action of November 15, 2005. Reexamination and reconsideration are respectfully requested. Reexamination and reconsideration are respectfully requested.

Claims 1-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,905,255 to Wakabayashi et al. ("Wakabayashi") in view of U.S. Pat. No. 5,499,143 to Sakamoto et al. ("Sakamoto").

Applicant's amended claim 1 recites "[a] *lens driver apparatus comprising: a body that is to be driven in a direction of an optical axis of a lens and to which said lens is attached,*

a guide axis for guiding and allowing the body to move freely in said direction of an optical axis of the lens without turning,

a driving coil that is flatly wound and attached to the body providing a thrust on said body parallel to the direction of the optical axis when a current is provided to said driving coil so that said body moves together with the driving coil in the direction of the optical axis, and

a driving magnet being disposed opposite side of the driving coil and along a direction of movement of the body,

wherein the driving coil and the driving magnet are shaped in curved forms so as to conform to an outer shape of the lens; and

wherein the driving coil and the driving magnet are disposed substantially within only a quadrant circumference of the lens, such that areas substantially corresponding to remaining quadrant circumferences of the lens are free of driving coils for providing thrust to the body in the direction of the optical axis.

Applicant's claimed invention provides improved movement of the body through provision of a curved driving coil and driving magnet, and does so using a combination of these elements that is disposed substantially within only a quadrant circumference of the lens. As noted in a previous response, Applicant's FIG. 2 illustrates one example of such a feature. In the figure, the driving coil (7) and the driving magnet (4) are quite clearly shown disposed within a quadrant circumference of the lens, specifically the lower-right hand quadrant of the lens in the depicted orientation. As also noted in the previous response, this configuration

frees approximately three-fourths of the cross sectional area of the lens apparatus, specifically the upper right-hand quadrant and left side as illustrated. Thus, as claimed by Applicant, the configuration is such that areas substantially corresponding to remaining quadrant circumferences of the lens are free of driving coils for providing thrust to the body.

These claimed features are absent from Wakabayashi and Sakamoto, whether taken alone or in any combination. As admitted by the Examiner, Wakabayashi does not disclose a driving coil and driving magnet shaped in curved form so as to conform to that outer shape of the lens. (Office Action, p. 2). Nor does Wakabayashi illustrate having the driving coil and the driving magnet disposed substantially within only a quadrant circumference of the lens, such that areas substantially corresponding to remaining quadrant circumferences of the lens are free of driving coils as claimed. Instead, Wakabayashi illustrates a set of typical rectangular coils 6a-d, 7a-d disposed about a majority of the perimeter of the corresponding apparatus, as clearly illustrated in FIG. 7.

The deficiencies of Wakabayashi are not remedied by Sakamoto. Sakamoto instead discloses, like Wakabayashi, a driving coil and magnet combination that extends about at least a majority of the perimeter of the apparatus. For example, FIG. 1 of Sakamoto quite clearly illustrates a coil 17 that corresponds to the perimeter in its substantial entirety, and a magnet set that does the same.

Independent claims 11 and 17 are also neither disclosed nor suggested by Wakabayashi and/or Sakamoto for reasons similar to those provided regarding claim 1 above.

Since Wakabayashi and Sakamoto fail to disclose features that are recited in Applicant's independent claims 1, 11 and 17, whether considered alone or in combination, Applicant submits that the Examiner has failed to produce a prima facie case of obviousness.

Also, even if the proposed combination would produce the claimed features, which is not the case, such a combination would be improper as there is no evident motivation to combine the references in the fashion offered by the Examiner. There is no reason to suggest combining the various rectangular coils disclosed in Wakabayashi with the curved coil and magnet combination disclosed in Sakamoto, and vice-versa. Applicant submits that the Examiner has engaged in an attempt to reconstruct the claimed invention in hindsight, and has failed to set forth a proper basis for an obviousness rejection.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of the independent claims as being unpatentable over Wakabayashi in view of

Sakamoto, as well as the corresponding dependent claims that incorporate the described features and that respectively add their own distinct features.

For the foregoing reasons, reconsideration and allowance of the claims which remain in this application are solicited. If further matters remain, the Examiner is invited to telephone the undersigned to resolve remaining issues.

Dated: February 13, 2006

Respectfully submitted,

By 

Ronald P. Kananen

Registration No.: 24,104

Christopher M. Tobin

Registration No.: 40,290

RADER, FISHMAN & GRAUER PLLC
1233 20th Street, N.W.
Suite 501
Washington, DC 20036
(202) 955-3750
Attorney for Applicant